

WHAT IS CLAIMED IS:

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A method for scheduling work and delivery of material for mass-producing
items in a factory comprising:
obtaining at least one outstanding customer order, wherein each outstanding customer of the
at least one outstanding customer order includes an item ordered by a customer, and
producing the item requires a required quantity of a required material;
determining a current state of an available inventory of at least one material from a plurality
of material sources; and
periodically generating a work schedule and a material delivery schedule for producing the
item using the at least one outstanding customer order and the current state of the
available inventory, wherein
the determining the current state of the available inventory is performed such that the
determining the current state of the available inventory is completed
immediately prior to the generating the work schedule and the material
delivery schedule; and
the obtaining the at least one outstanding customer order is performed such that the
obtaining the customer order is completed immediately prior to the generative

2. The method of claim 1 wherein the at least one outstanding customer order and the current state of the available inventory are posted continuously for the generating the work schedule and the material delivery schedule.

the work schedule and the material delivery schedule.

- 3. The method of claim 1 wherein the at least one outstanding customer order and the current state of the available inventory are posted continuously to an automated data warehouse.
- 4. The method of claim 1 wherein the determining the current state of the available inventory includes determining for each material of the at least one material of the available inventory:

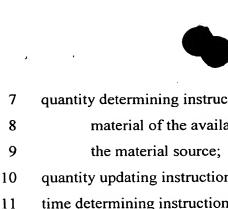
 a material source of the plurality of material sources from which the material can be obtained, wherein the material source is updated continuously;

6	an available quantity of the available material at the material source, wherein the available
7	quantity is updated continuously; and
8	an availability time of the available quantity of the material at the material source to each
9	operation of at least one operation of each manufacturing line of at least one
	, ,
10	manufacturing line of the factory, wherein the availability time is updated
11	continuously.
1	5. The method of claim 1 wherein
2	the obtaining the at least one outstanding customer order includes using a status for each
N	customer order of at least one customer order, wherein the status for each customer
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	order is updated continuously; and
8	the status for each outstanding customer order corresponds to an outstanding status.
6	6. The method of claim 1 wherein
2	the available inventory comprises external inventory.
]1 .	7. The method of claim 1 wherein
2	the available inventory comprises work-in-progress inventory.
.d .b	
]1 	8. The method of claim 1/wherein
2	the available inventory comprises in transit inventory.
1	9. The method of claim 1 wherein
2	the available inventory comprises in-house inventory.
1	10. The method of claim 1 wherein
2	the periodically generating the work schedule and the material schedule includes generating
3	the work schedule and the material delivery schedule every two hours.
1	11. The method of claim 1 wherein
2	a manufacturing shift comprises a number of hours less than or equal to eight; and
3	the periodically generating the work schedule and the material schedule includes generating
4	the work schedule and the material delivery schedule a plurality of times during the
5	manufacturing shift.
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2	the plurality of material sources comprises an external material source, the external material
3	source providing an external inventory of a first material of the at least one material of
4	the available inventory; and
5	the determining the available inventory of the material includes using an external visibility
6	interface module to determine the available inventory of the first material in the
7	external inventory.
1	13. A computer system comprising:
2	a processor; and
3	a memory, the memory comprising instructions, the processor for executing the instructions,
4	the instructions comprising:
19	obtaining instructions for obtaining at least one outstanding customer order, wherein
\mathcal{D}	each outstanding customer of the at least one outstanding customer order
7	includes an item ordered by a customer, and producing the item requires a
} ‡8	required quantity of a required material;
	determining instructions for determining a current state of an available inventory of at
lo	least one material from a plurality of material sources; and
] 	generating instructions for periodically generating a work schedule and a material
]9 0 1 1 2	delivery schedule for producing the item using the at least one outstanding
13	customer order and the current state of the available inventory, wherein
14	the determining the current state of the available inventory is performed such
15	that the determining the current state of the available inventory is
16	completed immediately prior to the generating the work schedule and
17	the material/delivery schedule; and
18	the obtaining the at least one outstanding customer order is performed such
19	that the obtaining the customer order is completed immediately prior to
20	the generating the work schedule and the material delivery schedule.
1	14. The computer system of claim 13 wherein the determining instructions further
2	comprise:
3	source determining instructions for determining for each material of the at least one material
4	of the available inventory a material source of the plurality of material sources from
5	which the material/can be obtained:

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4 5 quantity determining instructions for determining for each material of the at least one material of the available inventory an available quantity of the available material at the material source;

quantity updating instructions for updating the available quantity continuously;

time determining instructions for determining for each material of the at least one material of the available inventory an availability time of the available quantity of the material at the material source to each operation of at least one operation of each manufacturing line of at least one manufacturing line of the factory; and time updating instructions for updating the availability time continuously.

15. The computer system of claim 13 wherein the obtaining instructions further comprise:

status instructions for using a status for each customer order of at least one customer order to obtain the at least one outstanding customer order, wherein the status for each outstanding customer order corresponds to an outstanding status; and status updating instructions for updating the status continuously.

- 16. A automated data warehouse comprising: a current state of available inventory; and at least one outstanding customer order.
- 1 17. A automated data warehouse comprising:
- 2 a current state of available in-house inventory;
- 3 a current state of in-transit inventory;
- 4 a current state of work-in-progress inventory;
- 5 a current state of external inventory; and
- 6 at least one outstanding customer order.
 - 18. A computer readable storage medium comprising computer instructions for: obtaining at least one outstanding customer order, wherein each outstanding customer of the at least one outstanding customer order includes an item ordered by a customer, and producing the item requires a required quantity of a required material; determining a current state of an available inventory of at least one material from a plurality
- 6 of material sources; and



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periodically generating a work schedule and a material delivery schedule for producing the item using the at least one outstanding customer order and the current state of the available inventory;

determining the current state of the available inventory such that the determining the current state of the available inventory is completed immediately prior to the generating the work schedule and the material delivery schedule; and

obtaining the at least one outstanding customer order such that the obtaining the customer order is completed immediately prior to the generating the work schedule and the material delivery schedule.

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